

Software Test Plan (STP) Checklist

Date(s) of Assessment: _____

Project: _____

Assessor(s): _____

Document Examined: _____

		Y, N, NA	F, O	Comments
DOCUMENT STANDARDS COMPLIANCE				
1	Have standards/guidelines been identified to define the work product?			
2	Does the work product format conform to the specified standard/guideline (Template)?			
3	Has the project submitted any request for deviations or waivers to the defined work product?			
4	Have the following areas been addressed completely:			
4a	Approval authority?			
4b	Revision approval?			
4c	Revision control?			
TECHNICAL REFERENCE				
5	Is there evidence that the work product was reviewed by all stakeholders?			
6	Have acceptance criteria been established for the work product?			
7	Does the work product have a clearly defined purpose and scope?			
8	Are references to policies, directives, procedures, standards, and terminology provided?			
9	Does the work product identify any and all constraints/limitations?			
S/W TEST PLAN CONTENTS				
10	Does the S/W Test Plan address the following required information:			
10a	Test levels?			
10b	Test types (e.g., unit testing, software integration testing, systems integration testing, end-to-end testing, acceptance testing, regression testing)?			

Software Test Plan (STP) Checklist

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10c	Test classes?			
10d	General test conditions?			
10e	Test progression?			
10f	Data recording, reduction, and analysis?			
10g	Test coverage (breadth and depth) or other methods for ensuring sufficiency of testing?			
10h	Planned tests, including items and their identifiers?			
10i	Test schedules, Requirements traceability (or verification matrix)?			
10j	Qualification testing environment, site, personnel, and participating organizations?			
11	Does the S/W Test Plan identify the environmental exposure as well as requirements for comprehensive, functional, aliveness, end-to-end, and mission simulation testing?			
12	Does the S/W Test Plan provide a FSW System Overview that describes the unique complexities of the mission FSW from other mission FSW?			
13	Does the S/W Test Plan address user guide, operations /maintenance validation?			
14	Does the S/W Test Plan distinguish between the in-house GSFC FSW and S/W developed by GSFC-external organizations?			
15	Does the S/W Test Plan address new autonomy challenges, new flight hardware and/or new FSW technologies?			
16	Does the S/W Test Plan identify any FSW elements that will not be tested according to the test plan (e.g., externally developed FSW boxes that will be verified during I&T)?			
17	Does the S/W Test Plan address software architecture in terms of which software components will be based on heritage and which will be mostly or entirely new developments?			
18	Does the S/W Test Plan identify any software reuse? If so, is the extent of reuse or the anticipated modification described?			

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19	Does the S/W Test Plan identify the launch, in-orbit insertion, end-of-life, and operational demands of the software in terms of the challenges associated with testing the overall software system?			
S/W TEST ENVIRONMENT				
20	Does the S/W Test Plan include a figure of each FSW test environment (Development team, as well as test team)? If so, does it reflect the flight data system hardware approach, simulators, ground control system, and special development and/or test GSE?			
21	Does the S/W Test Plan explain the differences between the test bed flight-like hardware and flight unit hardware fidelities?			
22	Does the S/W Test Plan identify any test bed hardware redundancy and whether test bed redundancy differ from actual flight hardware redundancy?			
23	If commercial hardware elements are to be used in place of flight-like data system elements, does the test plan identify any fidelity issues and the risk mitigations activities associated with the testing?			
24	Does the S/W Test Plan identify specific test hardware and simulators for each external interface?			
25	In the event that flight hardware and simulation s/w may limit the desired fidelity or completeness of the software test, does the software test plan identify risks mitigations to ensure proper verification of the software capabilities?			
26	Does the S/W Test Plan identify the ground control system and any other special test equipments required for each FSW test bed?			
27	Does the S/W test Plan define the plans for delivering, installing and validating the performance of each test bed component? Does it also consider regression testing after test bed changes?			
TEST ORGANIZATION AND RESPONSIBILITIES				

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28	Does the S/W Test Plan identify all members of the Test Team?			
29	Does the S/W Test Plan describe additional relationships of the SW Test Team to other SW elements and to the project-level Mgmt and to the SB Mgmt?			
30	Does the S/W Test Plan depict the SW Test Team reporting structure?			
31	Does the S/W Test Plan identify the essential team member roles & responsibilities? (Test Team Lead, Test Engineers, CM, QA, Test Facility Mgr, SW Tools Support, GN&C Analyst, Ground Systems Support, Flight/Ground Data System Hardware)			
TEST SCHEDULE				
32	Does the S/W Test Plan include a test schedule that depicts milestones (i.e., SRR, PDR, CDR, build deliveries, Requirements Doc baselining, testbed component deliveries, user guide validation)?			
TEST TOOLS				
33	Does the S/W Test Plan address both process control and test execution tools?			
TEST CONFIGURATION MANAGEMENT				
34	Does the S/W Test Plan explain the CM approach for controlling test product and test equipment?			
TEST PROBLEM REPORTING & CORRECTIVE ACTION				
35	Does the S/W Test Plan provide a description of the problem reporting system to be used by the test team to report problems and/or recommended changes cited during the test activities?			
TEST METRICS				
36	Does the S/W Test Plan identify the test metrics to be collected (Number of faults detected in each module, - Number of requirements, design, and coding faults found during unit and integration testing, Number of errors by type (e.g., logic, computational, interface, documentation), Number of errors by cause or origin, Number of errors by severity (e.g., critical, major, cosmetic))			

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TEST TEAM PEER REVIEWS				
37	Does the S/W Test Plan address the informal internal test team peer reviews conducted on test scenarios, test procedures, and test results?			
38	Does the S/W Test Plan identify the participants for the internal test team peer reviews?			
TEST PROGRESS PLANNING & TRACKING				
39	Does the S/W Test Plan describe the routine test progress reporting approach?			
40	Does the S/W Test Plan describe the Build Test verification methodology? If so, does the description address build verification test level objectives, environment, roles & responsibilities, entry/exit criteria, general guidelines, build test planning, build test scenario development, build test procedure preparation & dry run, build test execution, reporting, and archiving?			
41	Does the S/W Test Plan describe the system validation test methodology? If so, does the description address system validation test level objectives, environment, roles & responsibilities, entry/exit criteria, general guidelines, system test planning, system test scenario development, system test procedure preparation & dry run, system test execution, reporting, and archiving?			
42	Does the S/W Test Plan describe the acceptance test methodology?			

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REFERENCE ITEMS/DOCUMENTS
<i>Reference Information for the Software Verification and Validation Process NIST Special Publication 500-234</i>
<i>Mission Flight Software Test Plan – 582-2003-001, Version 0.9, 08-21-03</i>
<i>GPG-7120.5, System Engineering</i>
<i>NPR 7150.2, NASA Software Engineering Requirements - The Software Test Plan shall include: [SWE-104]</i>

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COMMENTS PAGE ____ **of** ____

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